

CLAIMS

1. A composition useful for the relief of heat stress, including selective restoration of the potassium and magnesium ion, systemic decreases of which are associated with passive exposure to heat/sun and resultant intensive transpiration/perspiration, the composition comprising, when solubilized: a) at least 100 parts in weight of potassium ion; b) sodium ion not exceeding 250 parts in weight; c) at least 100 parts in weight of magnesium ion; and d) a carbohydrate source not exceeding 2.5% by weight for organoleptic purposes only.
2. A composition according to claim 1, wherein the sodium and potassium ions are provided by including in the composition sodium chloride and potassium phosphate, respectively.
3. A composition according to claim 1, further comprising (d) up to 30 parts of zinc.
4. A composition according to claim 1, further comprising (e) up to 10 parts of manganese.
5. A composition according to claim 1, further comprising (f) from 65 to 400 parts of calcium.
6. A composition according to any one of claims 1 to 5, further comprising oligoelements, dermoprotective vitamins and anti-oxidants so as to compensate for the biochemical changes which might occur in the skin of a person passively exposed to heat and/or sunshine.
7. A composition according to claim 6, wherein the oligoelements, dermoprotective vitamins and anti-oxidants are selected in the group comprising (g) from 2.5 to 250 parts of rutin, (h) from 0.04 to 0.3 parts of biotin, (i) from 15 to 120 parts of vitamin C, (j) from 4 to 30 parts of beta-carotene, and (k) from 2.5 to 20 parts of vitamin E.

*Sub B2*

8. A composition according to any one of claim 1 to 7, wherein the composition is prepared in the form of a powder.

9. A composition according to any one of claim 1 to 7, wherein the composition is prepared in a solid form.

10. A composition according to any one of claim 1 to 7, wherein the composition is solubilized in water.

11. A composition according to claim 10, wherein the water solution of the composition is in the frozen state.

*Sub B3*

12. A hypocaloric beverage useful for the relief of heat stress, including rehydration and selective restoration of the potassium and magnesium ions, systemic decreases of which are associated with passive transpiration/perspiration, the beverage comprising a composition according to any one of claims 1 to 7 solubilized in water, wherein for each liter of beverage each part by weight of composition ion corresponds to 1 mg.

13. A hypocaloric beverage according to claim 12, wherein the amount of carbohydrates contributes for no more than 120 kcal per liter of beverage.

14. A hypocaloric beverage useful for the relief of heat stress, including rehydration and selective restoration of the potassium and magnesium ions, systemic decreases of which are associated with passive transpiration/perspiration, the beverage comprising from about 0.3 to about 0.7 g/liter of a sodium compound; from about 0.3 about 0.5 g/liter of a potassium compound; from about 1.2 to about 1.8 g/liter of a magnesium compound; from about 0.2 to about 0.8 g/liter of a calcium compound; from about 0.002 to about 0.005 g/liter of a manganese compound; from about 0.04 g/liter to about 0.08 g/liter of a zinc compound; from about 0.025 to about 0.25 g/liter of Rutin; from about 0.00013 to about 0.0003 g/liter of Biotin; from about 0.004 to about 0.03 g/liter of beta-carotene; and from about 0.005 to about 0.02 g/liter of alpha-

tocopherol.

15. A beverage composition according to claim 14, wherein the sodium compound is sodium chloride, the potassium compound is potassium phosphate, the magnesium compound is magnesium pidolate, the calcium compound is calcium acetate and calcium ascorbate dihydrate, and the zinc compound is zinc gluconate.

16. A powder composition useful for the relief of heat stress, including selective restoration of the potassium and magnesium ions, systemic decreases of which are associated with passive transpiration/perspiration, the powder comprising for each dose range from about 50 to about 170 mg of a sodium compound; from about 80 to about 150 mg of a potassium compound; from about 300 to about 500 mg of a magnesium compound; from about 50 to about 1000 mg of a calcium compound; from about 0.6 to about 1 mg of a manganese compound; from about 10 mg to about 20 mg of a zinc compound; from about 2.5 to about 25 mg of Rutin; from about 0.03 to about 0.08 mg of Biotin; from about 1 to about 4 mg of beta-carotene; and from about 2 mg to about 8 mg alpha-tocopherol.

17. A powder composition according to claim 16, wherein the sodium compound is sodium chloride; the potassium compound is potassium phosphate, the magnesium compound is magnesium pidolate, the calcium compound is calcium acetate and calcium ascorbate dihydrate, and the zinc compound is zinc gluconate.

18. A solid composition in solid forms useful for the relief of heat stress, including selective restoration of the potassium and magnesium ions, systemic decreases of which are associated with passive transpiration/perspiration, the solid composition comprising, for each solid form, from about 6 to about 11 mg of a sodium compound; from about 8 to about 12 mg of a potassium compound; from about 18 to about 22 mg of a magnesium compound; from about 0.3 to about 0.5 mg of a manganese compound; from about 4.0 to about 6.2 mg of a zinc compound; from about 1.3 to about 1.8 mg of vitamin C; from about 2.0 to about

2.5 mg of Rutin; from about 0.005 to about 0.008 mg of Biotin; from about 0.04 to about 0.06 mg of beta-carotene; and from about 0.05 to about 0.15 mg alpha-tocopherol.

19. A solid composition according to claim 18, wherein the sodium compound is sodium, the potassium compound is potassium phosphate, the magnesium compound is magnesium oxide, and the zinc compound is zinc gluconate.